

September 20, 1988

MEMORANDUM FOR: N/MO15 – J. Morgan Wells

FROM: Leonard Bachman, MD
Chairman, NOAA Diving Medical Review Board

SUBJECT: NOAA Diving Physical Readiness Testing Program

I strongly recommend that the Physical Readiness Testing (PRT) Program attached as NOAA Diving Safety Bulletin 89-1 be implemented as soon as possible.

I am temporarily implementing the percent body fat standard as a secondary body composition standard to be used when the height/weight tables are determined to be inappropriate. This will remain in effect until the full PRT program is implemented. At that time the medical standard for body composition will be the percent body fat as calculated using the worksheet in Safety Bulletin 89-1.

I wish to emphasize that the PRT requirements are a minimal standard which should be readily obtainable by all NOAA divers without difficulty. I encourage NOAA divers to strive for a higher than “satisfactory” levels.

Cc: All NOAA Divers

attachment

September 20, 1988

NOAA Diving Safety Bulletin 89-1

MEMORANDUM FOR: All NOAA DIVERS

FROM: J. Morgan Wells
NOAA Diving Coordinator

SUBJECT: NOAA Diving Physical Readiness Testing Program

PURPOSE

This safety bulletin revises standards for the physical fitness of NOAA divers. These standards will help the Unit Diving Supervisors (UDSs) ensure that all NOAA Divers are minimally physically fit to dive safely. I expect that this encouragement to maintain a regular exercise program will improve the general health and quality of life for our divers as well.

AUTHORITY

This bulletin constitutes a change to the NOAA Diving Medical Standards by replacing the Height/Weight Table in the NOAA Diving Medical Evaluation Criteria (NOAA Directive 64-23; NOAA Diving Regulations; Exhibit No. 2a). This policy is implemented upon the recommendation of the NOAA Diving Medical Review Board, with the concurrence of the NOAA Diving Safety Board, under the authority granted them in the NOAA Diving Regulations.

BACKGROUND

Operational diving requires divers to perform rigorous aerobic and anaerobic exercise. Previous policy did not give the UDS, NOAA Diving Coordinator or an examining physician any yardstick against which to measure an individual's fitness. Implementation of a Physical Readiness Testing (PRT) program will allow screening of diver candidates prior to investing time and money in diving training, and will allow UDSs to ensure that current NOAA divers are maintaining themselves in good physical condition as required by regulation.

Because of the high solubility of nitrogen in fat and because of the poor vascularity of fatty tissue, it has long been held that obesity increases susceptibility to decompression sickness. Being overfat indicates poor general cardiovascular fitness and ability to perform strenuous work. The medical standard for overfat is a percent body fat of 22% or greater for men and 33% or greater for women.

Previous use of the standard height/weight tables have shown that they are at best a tool for general screening. Many body types do not fit into the tables, yet have acceptable body fat levels, while some divers that fit the tables have an excessively high percent body fat. The most accurate method of determining body composition is direct measurement of body density in a weighing tank. However, this method is not available to all NOAA divers, and so a more “portable” method is necessary. The attached measurement method is from U.S. Navy OPNAVINST 6110.1C and is performable with only a tape measure. This method produces results that correlate very closely to those from the weighing tank. This correlation has been validated by experimentation by the NOAA Fleet Medical Officers.

The exercise portion of the PRT is also derived from the U.S. Navy’s OPNAVINST 6110.1C, which is the Navy wide PRT program, and the PRT test used by the NOAA Commissioned Corps. These programs are used to ensure basic physical fitness for all ratings and professions throughout the Navy and NOAA Corps.

IMPLEMENTATION

UDSs will distribute this bulleting to all active NOAA divers upon receipt. All divers not already doing so, should embark upon a regular exercise program to ensure their readiness to participate in the PRT when scheduled.

BODY COMPOSITION SCREENING

EXAMINATION REQUIREMENTS

INITIAL: The UDSs will ensure that the initial Body Fat Computation Worksheet (attachment 2) is completed prior to the administration of the PRT, and forwarded to NDP with the PRT results. A copy should be retained in the diver’s record at the diving unit.

ANNUAL: The Body Fat Computation Worksheet will be completed coincident with the diver’s annual physical examination. The worksheets will be forwarded to NDP Headquarters with a copy retained in the diver’s record at the diving unit.

DIVER CANDIDATES: The Body Fat Computation Worksheet will be completed coincident with the divers’ initial diving physical examination. Obese and overfat personnel will not be processed for certification or training.

NOAA COMMISSIONED OFFICERS: Body Composition Measurements conducted to satisfy NOAA Corps regulation will suffice to meet the requirements of this Safety Bulletin if they are performed reasonably coincident with the divers annual physical. The UDS will determine “reasonable coincidence”.

PROCEDURE

The UDS or his designee shall take body measurements to determine each diver’s body composition. Detailed instructions on the method of calculating percent body fat are included in attachment 1.

Divers that are classified as overfat or obese (male: 22% or greater, Female: 33% or greater) will be considered medically unfit for diving. Their authorization to dive for NOAA will be suspended, and they will be placed in “inactive” status, effective immediately. Overfat and obese personnel will not be allowed to take the PRT.

PHYSICAL READINESS TESTING PROGRAM

TESTING REQUIREMENT

INITIAL: The UDSs shall ensure that all NOAA divers complete, and pass, the PRT within one year of the date of this bulletin.

ANNUAL: All NOAA divers will pass the PRT each calendar year, and at any time that the UDS determines that a diver’s physical condition is suspect.

DIVER CANDIDATES: Diver Candidates will be required to take and pass the PRT prior to admission to a NOAA Diving class. Documentation of successful completion of the PRT must be forwarded to NDP headquarters prior to the application cutoff date for that class. (NOTE: PRT testing will only be conducted after the candidates have completed their diving physical and been approved for diving by the examining physician).

NOAA COMMISSIONED OFFICERS: NOAA Corps Officers may use a PRT test that has been conducted to satisfy NOAA Corps Regulations to meet the requirements of this Safety Bulletin, provided that the calendar year requirement above is met. The UDS may still require that the PRT be performed if the officer’s physical condition becomes suspect.

PROCEDURE

The PRT will be scheduled by the UDS, guided by the following requirements:

- (1) The operational requirements of the units must be accommodated as much as possible.

- (2) All participants in the PRT will have a current, “approved for diving” diving physical examination on file with the diving unit before taking the PRT.
- (3) The diver will be screened for percent body fat before participating in the PRT.
- (4) Any diver medically unfit to participate in the PRT must also be considered medically unfit to dive. Temporary medical conditions precluding participation should be documented, and the PRT for the individual rescheduled for such a time as the condition has resolved and the individual is ready to return to diving.
- (5) Two CPR certified personnel must be present during the PRT. Medical oxygen must also be available.
- (6) A qualified lifeguard must be present during the 500 yard swim.
- (7) Divers must adequately warm up before the PRT, and cool down slowly after the PRT.
- (8) PRT events should be completed on the same day in the following sequence: sit-reach, sit-ups, push-ups, and 1.5 mile run/walk (or 500 yard swim).

Specific instructions for each exercise are included in attachment 3. The results of the PRT will be reported on the PRT Program Individual Score Sheet (attachment 4).